

REMARKS

Claims 1-18 are pending in the application. It is gratefully acknowledged that the Examiner has allowed Claims 16-18. The Examiner rejected Claim 5 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The Examiner has rejected Claims 1 and 5 under 35 U.S.C. §103(a) as being unpatentable over Chalmers (U.S. Patent 5,375,146) in view of Yasuda (U.S. Patent 6,181,740), and further in view of Poklemba (U.S. patent 5,696796). The Examiner has rejected Claims 2-4, 6, 7 and 9-15 under 35 U.S.C. §103(a) as being unpatentable over Chalmers in view of Yasuda, further in view of Poklemba, and further in view of Ostman (U.S. Patent 6,061,385).

Please amend Claim 5 as set forth herein. No new matter has been added.

Regarding the rejection of Claim 5 under §112, first paragraph, the Examiner states that the claim does not comply with the enablement requirement. Claim 5 has been amended to recite, in part, “an RF unit for receiving an input signal and providing the received signal to a third mixer; a filter for attenuating an aliasing frequency component and an image frequency component of the first mixer in the digital down-converter, from an output of the third mixer”.

Based on at least the foregoing, withdrawal of the rejection of Claim 5 under §112 is respectfully requested.

Regarding the rejections of independent Claims 1 and 5, under §103(a), the Examiner states that Chalmers in view of Yasuda and further in view of Poklemba renders the claims obvious. Chalmers discloses a digital frequency conversion and tuning scheme for microwave radio receivers and transmitters; Yasuda discloses a sampling system; and, Poklemba discloses a continuously variable IF sampling method for digital data transmission. Applicant respectfully disagrees with the rejections.

Claim 1 recites a second mixer for converting the frequency of the first IF signal having

only wanted components output by the decimation filter to a second IF signal of the detection frequency. The Examiner equates these features with the two (2) mixers 132 and 134 of Chalmers. A mixer (i.e. the second mixer) that converts a frequency of a first IF signal to a second IF signal of the detection frequency, cannot be equated with 2 mixers.

Claim 1 further recites that the second mixer outputs the second IF signal as a complex signal by multiplying the output of the decimation filter by a complex local signal. This feature of Claim 1 states that the second mixer multiplies the output of the decimation filter by a complex local signal. Neither mixer 132 nor mixer 134 of Chalmers multiplies the output of the decimation filter by a complex local signal.

The Examiner asserted that since Chalmers discloses a decimation filter, it would be obvious to one of ordinary skill in art to combine the phase shifter 126, mixer 132 and mixer 134 in Fig. 1 of Chalmers with the teaching of an analog decimation filter 105 of Fig. 3 of Yasuda. However, Yasuda only discloses a configuration of a decimation filter for removing a frequency component which converted into aliasing noise and only discloses a general function of decimation. Therefore, there would be no reason to combine the analog decimation filter of Yasuda with the phase shifter and mixers of Chalmers.

Namely, if the analog decimation filter of Yasuda is combined with the phase shifter and mixers of Chalmers, since Yasuda and Chalmers cannot be implemented wherein the decimation filter is fixed between a first mixer and a second mixer as recited in Claim 1 of the present application.

Further, the combination of Yasuda and Chalmers does not render obvious that the decimation filter according to the present invention suppresses a undesired frequency component of the first IF signal frequency output from the first mixer.

Regarding Claim 5, the arguments set forth above with respect to Claim 1 also apply to Claim 5.

Based on at least the foregoing, withdrawal of the rejections of independent Claims 1 and 5, under §103(a) is respectfully requested.

Independent Claims 1 and 5 are believed to be in condition for allowance. Without conceding the patentability per se of dependent Claims 2-4 and 6-15, these are likewise believed to be allowable by virtue of their dependence on their respective amended independent claims. Accordingly, reconsideration and withdrawal of the rejections of dependent Claims 2-4 and 6-15 is respectfully requested.

Accordingly, all of the claims pending in the Application, namely, Claims 1-18, are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicant's attorney at the number given below.

Respectfully submitted,



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